
**Pliers and nippers for electronics —
General technical requirements**

Pinces pour l'électronique — Spécifications techniques générales

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9657 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This second edition cancels and replaces the first edition (ISO 9657:1989), which has been technically revised.

Pliers and nippers for electronics — General technical requirements

1 Scope

This International Standard specifies the general technical requirements to be met by pliers and nippers for use in electronics. These pliers and nippers are intended for use on electronic components, printed circuit boards, etc.

NOTE Certain terms used in this International Standard are defined in ISO 8979.

This International Standard does not apply to tools intended for working on live electrical circuits and for antistatic applications.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8979, *Pliers and nippers for electronics — Nomenclature*

3 Handles

The hardness of the handles shall be 40 HRC. The handles shall be shaped and equipped with sleeves to afford a comfortable grip. The width of the handles shall include the thickness of the comfort grip.

4 Heads

4.1 General

Unless otherwise specified, the minimum hardness of the head shall be 40 HRC.

4.2 Joint

The joint shall be constructed to allow free movement from the closed to the open position within the normal working range and shall be free from excessive side movement which could impair the function of the tool.

4.3 Jaws

Unless otherwise specified in the dimensional standards, the jaws of all pliers shall meet at the point. Cutting nippers shall have a minimum cutting edge hardness of 55 HRC.

Gripping pliers shall have a minimum hardness of 40 HRC on the gripping surfaces.

No hardness values are specified for the jaws of round nose pliers.

5 Designation

5.1 Cutting nippers

The principal information required for the designation of cutting nippers shall be given in the following order and in accordance with ISO 8979:

- a) designation and number of nomenclature;
- b) number of ISO standard concerned;
- c) dimensions;
- d) direction and position of cutting edges;
- e) type and shape of cutting edges;
- f) type of joint;
- g) field of application; e.g. size and type of wire, off-cut retention (only if required for better understanding).

5.2 Single-purpose and multi-purpose pliers

The principal information required for the designation of single-purpose and multi-purpose pliers shall be given in the following order and in accordance with ISO 8979:

- a) designation and number of nomenclature;
- b) number of ISO Standard concerned;
- c) dimensions;
- d) shape of the nose (end view at the point);
- e) shape of the nose (in the longitudinal direction);
- f) type of joint;
- g) whether the jaws are serrated;
- h) whether the jaws have grooves.

For multi-purpose pliers with cutters, the following information shall also be given:

- i) direction and position of cutting edges;
- j) type and shape of cutting edges;
- k) field of application; e.g. size and type of wire, off-cut retention (only if required for better understanding).

6 Marking

Pliers shall be marked with at least the name or trademark of the manufacturer (or responsible supplier).